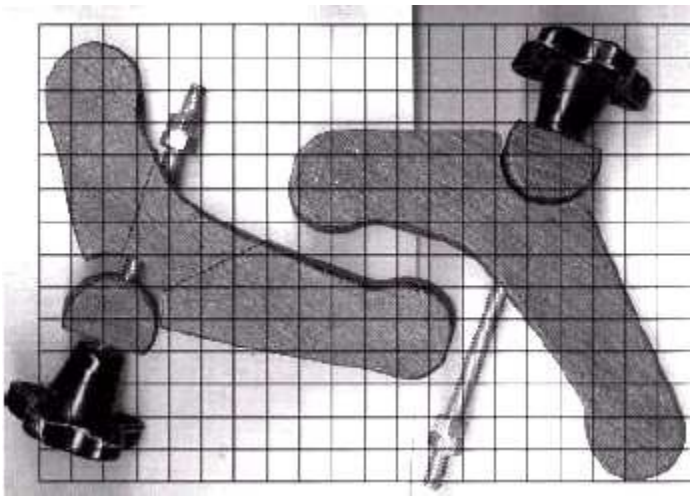
Shop-made Hold-downs

by William Duffield

Here is a quick scan of the hold-downs I use on my bench, crosscut sled, drill-press table, other jigs and fixtures, anywhere they may be needed in my shop where I can install a threaded insert.



This is a half size image. It is overlaid with half inch squares, but it's easier to just print it at double size to transfer to a pattern. The threaded rod is 5/16-18 (coarse) with two jammed nuts for a depth stop. The knobs are through-threaded. Wingnuts would work. The hold-downs are cut from 1" thick purpleheart. Hard maple or whatever hardwood scraps you have laying around would work, as long as you pay attention to grain direction when you lay them out. The grain direction is just visible in the scan.

The pivot block has a 3/8" hole drilled in it. The dotted lines show where a 3/8" wide slot is cut through the center of the body. They are asymmetrical so you can hold thinner work pieces farther from the bolt (to a maximum of about 4 1/2"), or thicker stock closer to the bolt. If you need to hold stock thicker than about 2 1/2", just put a block under the back end.

For easy operation, make sure the bearing surfaces are smooth and of similar diameter. You could use a Forstner bit before cutting out the rest of the arm, and a section of dowel just a little smaller for the pivot block. You can make them any size you need, even using 1/4 or 3/8 threaded rod if you want them larger or smaller. I would suggest settling on one thread size, for maximum flexibility.

To make a tool for installing threaded inserts, I use a shorter version of the threaded rod with jammed nuts that I use for the hold-downs, and chuck it in a bit-brace.